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June 28, 2010

Mr. Larry Dacus
MBK Engineers
1771 Tribute Road
Sacramento, CA 95815

Dear Mr. Dacus:

**Subject: Upper Yuba River Levee Improvement Project
June 24, 2010 Meeting of Board of Senior Consultants**

In response to your June 7, 2010 letter, we attended the third meeting of the Board of Senior Consultants (Board) for the Three Rivers Levee Improvement Authority's (TRLIA) Upper Yuba River Levee Improvement Project on June 24, 2010. The purpose of the meeting was to review project progress and address questions on the 90% design submittal.

Prior to the meeting, we received the following documents: the 90% Design Documentation Report and 90% Plans and Specifications by HDR, Revised Geotechnical Basis of Design and Geotechnical Borrow Site Evaluation reports by Kleinfelder, and an Excel spreadsheet listing review comments and the status of the project team's responses to the comments. At the meeting we received: the project milestone schedule, an aerial photo of the levee system, a levee improvements summary and typical section of the levee with a cutoff wall.

The meeting was held at MBK's office in Sacramento and was attended by members of the project team (MBK, Kleinfelder, and HDR), TRLIA, Handen Company, Reclamation District 784, and representatives of the Central Valley Flood Protection Board and the California Department of Water Resources. The agenda and a list of attendees are attached to this letter.

The Board was told that the levee improvement contract has been advertized using the 95% design documents (the 95% design documents included updates to the 90% documents that the Board had reviewed). Financing is available. Land acquisition is well under way, as is obtaining permits. Construction could start in early August.

Your letter posed three questions that were discussed and addressed during the meeting. The following is a summary of our responses and comments that we provided orally during the meeting.

Question 1. *Does the Board concur with the approach, method, and findings of the engineering analyses?*

We concurred with the approach, method, and findings of the engineering analysis in our March 26, 2010 letter. Since that time, additional seepage analyses have been completed to assess the impact of the planned 10-foot deep borrow area excavation located 300 feet from the landside toe of the levee. The computed exit gradients are below Corps thresholds. The Board suggests that the contractor be permitted to go below the 10 foot depth if acceptable material is available but must backfill later to the nominal depth of 10 feet.

Question 2. *Does the Board concur with the following design elements:*

- *Depths and lateral extent of the cutoff wall*
- *Widths and lateral extent of the stability/seepage berm*

In our March 26, 2010, we concurred with the depth and lateral extent of the cutoff wall. Since then, the depth of the “hanging wall” portion of the wall has been reduced to a more practical 70 feet. We concur with this change, and with the widths and lateral extent of the seepage berm.

Question 3. *Is the BOSC satisfied with the way the design team has addressed comments on the 60% design.*

Based on our review of the 90% design documents and discussions during the meeting, we are generally satisfied with the disposition of our comments on the 60% design. However, we were given an Excel spread sheet listing disposition of comments which was prepared by HDR. It indicates that some geotechnical issues were directed to Kleinfelder, but Kleinfelder’s status of their response to these issues is not included in the spreadsheet. This loop should be closed. We also suggest that you or an appropriate designee check each comment, assure that the promised actions have been enacted, and such checks be documented as a “backcheck” in the spreadsheet. This can be done for the 90% to the 100% submittal.

It was noted that the wind and wave analyses have been done but evaluation of the effects of these forces on the bank protection has not been performed. At the meeting, the Board was told that this analysis will be performed by HDR and the Board anticipates the results will be presented at the next meeting or before the 100% submittal.

We understand that the design drawings were developed using the NGVD 29 datum. For consistency with other reaches of the levee, it would be helpful to provide the relationship between this datum and the NAV 88 datum.

Mr. Larry Dacus
MBK Engineers
June 28, 2010
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We appreciate the efforts of the project team in providing thoughtful responses to our earlier comments, the technical presentations, and informative briefings. The participation of other meeting attendees was also appreciated.

Respectfully submitted,



Donald H. Babbitt, P.E.
Board of Senior Consultants



Faiz I. Makdisi, P.E.
Board of Senior Consultants



David T. Williams, P.E.
Board of Senior Consultants

Attachments:

- List of Attendees
- Meeting Agenda

**Three Rivers Levee Improvement Authority
Upper Yuba Levee Improvement Project
Board of Senior Consultants, Third Meeting
June 24, 2010**

Agenda

1. 9:00 – 9:15 Introductions and Administrative Details/Dacus
2. 9:15 – 10:15 Project Update and Details/HDR and Kleinfelder
Additional Explorations Findings
Borrow Area Findings
Final Project Features
Construction Schedule
- 10:15 – 10:30 Break
3. 10:30 – 11:15 Responses to Preliminary Comments on the 90% Submittal
4. 11:15 – 12:00 Questions/Feed Back from the BOSC
5. 12:00 – 13:00 Lunch & Other Topics
- 13:00 – 17:00 BOSC Internal Discussion and Preparation of Letter Report